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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,238	01/22/2004	Yuji Isoda	Q79376	2024

7590 01/25/2005

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
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Washington, DC 20037-3202

EXAMINER

GABOR, OTILIA

ART UNIT PAPER NUMBER

2878

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TB

<b>Office Action Summary</b>	Application No. 10/761,238	Applicant(s) ISODA, YUJI	
	Examiner Otilia Gabor	Art Unit 2878	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 16 and 18-20 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/870,679.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. The amendment filed on 11/18/2004 has been entered.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa et al. (U. S. Patent 6031236) and further in view of Tsuchino et al. (U. S. Patent 5055681).

Arakawa et al. discloses an apparatus 10 and method to prepare a stimuable phosphor sheet comprising a support positioned in the deposition system 11 and an evaporation source 11a by which the phosphor layer is evaporated in the vacuum chamber 12 of the deposition apparatus 10. The powdery (solid) stimuable phosphor is introduced into the evaporation source 11a while the substrate or support on which the phosphor is to be deposited is positioned in the deposition system 11. Then the exhaust system 13 is driven to set the vapor pressure within the vacuum container 12 to a desired level to perform the deposition of the stimuable phosphor onto the substrate. The deposition is carried out by heating the substrate to a predetermined temperature. The support could be Quartz, alumina, silicon carbide or zirconia. Optionally a transparent glass protective film (layer) is also deposited on the substrate to form an

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airtight seal over the substrate frame. The phosphor to be vaporized can be selected from the group including a stimuable alkali metal halide phosphor with the formula as claimed (see Cols.5-7). The phosphor sheet thus prepared using the vacuum evaporation method has a relative density more than 70% and preferably up to 93%. Also the support is connected to a heating device whereby the temperature of the support can be changed.

Arakawa et al. fails to specifically use an electron beam heating method for the process of evaporation, however as disclosed by Tsuchino et al. the electron beam vacuum evaporation of a phosphor onto the support which, can be heated or cooled before, during or after the vaporization, is a well known and used evaporation method and thus using this heating method constitutes only a matter of design choice. The phosphor to be evaporated can employ different forms and raw phosphor materials.

Regarding claims 4, 6, 7, 10, 11, 13 using the claimed cooling rate and accelerating voltage constitutes only a matter of design choice since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

#### ***Allowable Subject Matter***

4. Claims 15, 16, 18-20 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter: The arguments as well as the affidavit presented by the Applicant to distinguish

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the prior art reference from the present invention are persuasive (specifically that the presence of the specific frame which unitedly protrudes from a circumference of the support and which encloses the phosphor layer and to which the protective silicate glass is airtightly attached to gives rise to unexpected superiority), and thus render the claims allowable over the prior art cited.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Doms et al. (U. S. Patent 5789021), Kawabata et al. (U. S. Patent 4947046), Nakazawa et al. (U. S. Patent 5023461), Kano et al. (U. S. Patent 4963751).

7. **NOTE:** The following publications: Iwabuchi et al. (US 20020041977 A1); Hosoi (US 20020104974 A1, US 20020139937 A1); Neriishi et al. (US 20020158216 A1) disclose the same invention as the one claimed in the present application, but because their filing and publication date is later than the priority date of the present application it cannot be used as prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 571-272-2435. The examiner can normally be reached on Monday, Thursday-Friday between 9am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Otilia Gabor  
Examiner  
Art Unit 2878

A handwritten signature in black ink, appearing to read "Otilia Gabor", is written below the printed name and title.